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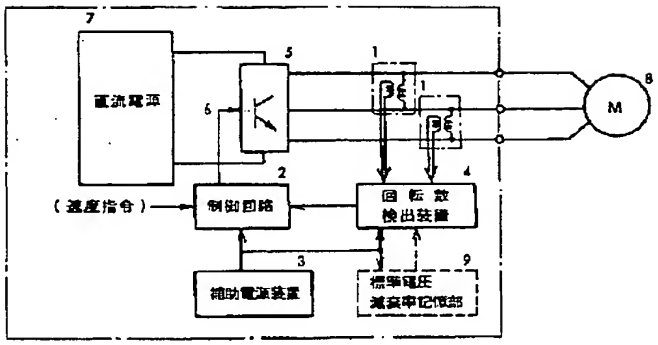
TITLE : POWER-SUPPLY DEVICE



ABSTRACT : PURPOSE: To automatically restart a motor after a power supply has been restarted by a method wherein a voltage signal produced due to a residual magnetic flux-the magnetic core of the motor is detected and analyzed, the zero-crossing point of the voltage signal is detected and the number of revolutions of the motor is detected by a cycle between an apparatus and the zero-crossing point.

CONSTITUTION: When a momentary service interruption on the electricity-receiving side is detected, a control circuit 2 stops the output of a switching element 5 and a motor 8 is set to a free-running state. In this state, a voltage is generated at a terminal part for the motor 8 by a residual magnetic flux of the magnetic core of the motor 8 for several seconds after the driving power supply of the motor 8 has been stopped. The voltage is detected by a voltage detection device 1, the zero-crossing point of a voltage signal detected by a number-of- revolutions detection device 4 is found, the number of revolutions of the motor 8 is detected on the basis of its time internal and the number of revolutions is transmitted to the control circuit 2. After the power supply has been restored, the control circuit 2 outputs a voltage at a frequency corresponding to the number of detected revolutions of the motor 8. When the motor is restarted automatically, the number of periodic revolutions can be induced smoothly. Thereby, after the power supply has been restored, the motor 8 can be restarted automatically.